

What is claimed is:

1. A method for obtaining a liquid sample having an increased cellular or particulate concentration for optical examination comprising:
 - 5 (a) providing an apparatus comprising:
 - a separation chamber;
 - a wall surrounding said separation chamber;
 - a sample entrance;
 - venting channels;
 - 10 a separation wall in said separation chamber dividing said chamber into two compartments, said separation wall having at least one separation channel; and
 - a flow path in said separation chamber;
 - 15 (b) depositing a liquid sample into the sample entrance of said apparatus;
 - (c) allowing the sample to flow into the separation chamber;
 - (d) allowing the sample to flow along the flow path in said separation chamber;
 - (e) allowing the sample to advance to the separation wall;
 - (f) allowing the sample to advance through the separation wall and the at least one separation channel;
 - 20 (g) allowing the sample to advance to the second compartment;
 - (h) allowing the sample to advance to the end of the separation chamber;
and
 - (i) obtaining in the first compartment, the sample having an increased cellular or particulate concentration, which has been prevented from passing through said separation channel(s).

2. The method according to Claim 1 wherein said liquid sample is blood.

3. The method according to Claim 1 wherein said apparatus further comprises a lid portion.

5 4. The method according to Claim 3 wherein said lid portion has at least one opening for sample delivery.

5. The method according to Claim 1 wherein said separation wall has at least one first separation channel and at least one second separation channel.

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6. The method according to Claim 5 wherein said separation channels are of different sizes.

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7. The method according to Claim 5 wherein said first separation channel is about 3 to 10 μm deep by 5 to 50 μm wide.

8. The method according to Claim 5 wherein said second separation channel is about 0.5 to 1.5 μm deep by 50 to 1000 μm wide.

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9. The method according to Claim 1 wherein said apparatus further comprises a plurality of notches in said separation chamber. 422 | 228
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10. The method according to Claim 1 wherein said apparatus further comprises a plurality of notches in said first compartment of said separation chamber.

11. The method according to Claim 1 wherein said apparatus further comprises a plurality of notches in said second compartment of said separation chamber.

5 12. The method according to Claim 1 wherein said apparatus further comprises a plurality of notches in said first compartment and second compartment of said separation chamber.

10 13. The method according to Claim 1 wherein said separation wall has a plurality of separation channels of the same size.

14. The method according to Claim 1 wherein said separation wall has a plurality of separation channels of different sizes.

15 15. The method according to Claim 9, further comprising allowing the sample to flow past each notch in the separation chamber.

16. The method according to Claim 10 further comprising, after step (d), allowing the sample to flow past each notch in the first compartment.

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17. The method according to Claim 11 further comprising, after step (g), allowing the sample to flow past each notch in the second compartment.

25 18. The method according to Claim 12 further comprising, after step (d), allowing the sample to flow past each notch in the first compartment; and after step (g), allowing the sample to flow past each notch in the second compartment.